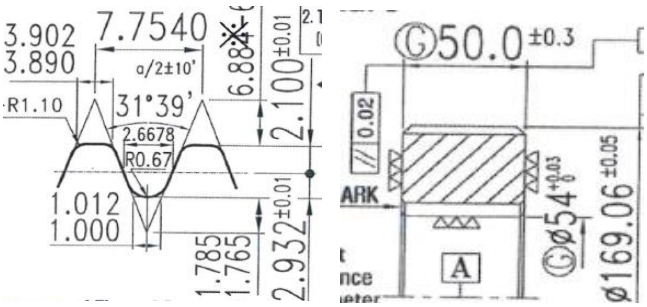
Application Data Sheet

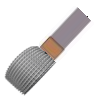
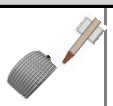
Rolling Die Ø169 W50

A21-010

To produce a rolling die with a tooth height of 5.032mm, the following grinding cycles are used. The roughing of the tooth profile consist 5 passes with an infeed of 1.0mm. The roughing is done with a dressed CBN wheel. This is followed by a prefinishing and a finishing with 18 passes. A dressed corundum wheel is used for the teeth profile. To remove incomplete tooth profiles at the start and the end, a dressed CBN is used.



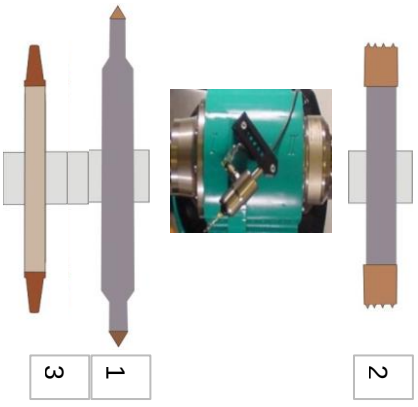
1. Cycletime for Resharpening

Workpiece: Diameter 169 mm, 50 mm, Helix angle 19º Material HSS						
Operations	 Probe	 Prf Rough	 Prf Pgrd	 Prf fin	 Top Start	 Top End
Feed [mm/Min]	2000	100	2000	600	600	600
Power [kW]		2	1	1	1	1
Cutting speed [m/s]		32	22	24	24	24
Used wheels		1	2	2	 3	 3
Grinding time [s]	6	5068	507	1351	55	55
Total cycle time	117 Min 22 x2					

The cycle times are indicative. Material to be ground, grinding wheels, coolants can influence the cycle times considerably.

2. Used Grinding Wheels

1	14E1 Ø300 B126V30º
2	DXF Ø250 Corundum A80
3	DXF Ø200 B126



3. Machine and Software Requirements

Machines: 5 axes CNC grinders : NGM
Control: Fanuc 31iB 5
Accessories:
Coolant: Synthetic Oil, pressure 6 bar
Software: Qg1

Responsible engineer: PAH, 22.08.19

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TECHNOLOGY FOR TOOLING